PERIODIC MAINTENANCE ACTION - USDoE ARMS SITES

ELECTROLYSER

Location: Nauru Date: 25-Sep-05

	Check Performed	H'Book Reference	Requirement	Action
Gas Analyser				
1	Battery condition of analyser	Section 4.1 (Teledyne)	Between 6 - 8 on the 25% scale	OK
2	Calibration against air of gas analyser	Section 3.4.1 (Teledyne)	20.80%	Nil Adjust
3	Aspirator filter condition		Moisten, replace when gluggy	OK
4	Electrolyser hydrogen gas sample reading		Less than 1 %	0.01
Electrical Cabinet Pressurisation System				
5	Wind sail switch operation	Section 8G(b) (Electrolyser Corp)		OK
6	Purge time delay relay operation	Section 7B(ii) (Electrolyser Corp)	Greater than 60 seconds	60
7	Air vent holes, rear of electrical cabinet unobstructed			Clear
8	Exterior air intake vent unobstructed			Cleaned
9	Lubrication of pressurising fan		4 drops of oil per lubricating point	N/A Nauru
10	Air filter		Clean and replace as necessary	replaced
Control Systems				
11	High pressure cut-off switch	Section 8G(a) (Electrolyser Corp)	100 ± 3 psi	98
12	Compressor start switch (ZSH6)	Section 7D(iii) (Electrolyser Corp)		OK

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13	Compressor stop switch (ZSL6)	Section 7B(iii) (Electrolyser Corp)		OK
14	Compressor stop switch (ZSLL6)	Section 7B(iii) (Electrolyser Corp)		OK
15	Operating current	Section 7B (Electrolyser Corp)	250 amps	250
16	Idle current	Section 7B (Electrolyser Corp)	30 amps	30
Water System				
17	Demineralizing cartridge colour	Section 8F (Electrolyser Corp)	Change if showing colour change(black >brown)	OK
18	Deionising resin		Change if above test shows a colour change	OK
19	Water seal	MEI 4.4001	Clean	Cleaned
20	Water seal overflow pipe height	MEI 4.4001 par 18	280mm	Set 280mm
21	Water tubing - ¼" dia		Check condition for deterioration and replace as necessary	OK
Electrolytic Cells				
22	Cell condition			Fair
23	Vent tube condition			Good
24	Electrolyte leaks			Nil
25	Oxygen contamination check of each cell	Cell 1	Less than 1%	0.02
		Cell 2		0.02
		Cell 3		0.03
		Cell 4		0.04

PERIODIC MAINTENANCE ACTION - USDoE ARMS SITES

		Cell5		0.04
26	Specific gravity of each cell	Cell 1		1285
		Cell 2		1290
		Cell 3	Greater than 1270	1290
		Cell 4		1280
		Cell 5		1290
27	Hydrogen vent pipe exit		Check for obstructions and remove	clear
28	Oxygen vent pipe exit		Check for obstructions and remove	clear

Compressor

29	Compressor	Complete overhaul every maintenance visit	Overhauled
30	Compressor valve plate	Complete overhaul every maintenance visit	Overhauled
31	Coalescing filter	Change every maintenance visit	Changed
32	Compressor oil	Change every maintenance visit	Changed
33	Pumpdown test	Valve V1 in vent position	1min @ 90psi

Moisture

34	Storage cylinder moisture vented	Every maintenance visit	200ml

General

35	Cleaning of electrolyser	cleaned
36	Cleaning of 'H' van	Observers

PERIODIC MAINTENANCE ACTION - USDoE ARMS SITES

Leak Tests

37	Low pressure leak test between cells and gasholder	No greater than 2.5cms indicated by inlet manometer	Nil
38	Low pressure leak between gasholder and compressor inlet valve	No greater than 2.5cms indicated by gasholder position	Nil

Manometer

39	Inlet manometer fluid level	Level not less than + 1.0cms	OK
40	Outlet manometer fluid level	Level not less than + 1.0cms	OK
39	Gas tubes - 3/8" dia	Check condition for deterioration	OK
41	Manometer tube exits	Check that they are not obstructed	clear

Safety

42	Safety signs prominently displayed		Faded
43	Drench shower operates satisfactorily (water, temperature, pressure etc)		OK
44	KOH neutralising fluid	Sufficient acetic acid available	Purchased locally

REMOTE BALLOON LAUNCHER

Visual Inspection

1	Operation of sliding door	OK
2	Operation of door catch (inside/outside)	OK

PERIODIC MAINTENANCE ACTION - USDoE ARMS SITES

3	Tension of rubber curtains			OK
4	Gas hose condition			Good
5	Earth system condition			OK

Safety

6	Safety signs prominently displayed			OK

Remote Launch Mechanism Enclosure

7	Water sprays operate satisfactorily			OK
8	Light in enclosure illuminates			OK
9	Flashing light and audible alarm operates satisfactorily			OK
10	Blower fan operates satisfactorily			OK
11	Balloon release mechanism and cable not obstructed and operates satisfactorily			OK

Leak Tests

12	Balloon fill valve	RBL Technical Manual part 7 section 5.1	Determine increase in pressure after 60 minutes	Nil
13	Hydrogen pipeline and fittings	RBL Technical Manual part 7 section 5.3	Check pipes and fittings after openring balloon fill valve for 20 seconds	OK

Regulator

PERIODIC MAINTENANCE ACTION - USDoE ARMS SITES

14	Regulator gas flow rate	RBL Technical Manual part 7 section 5.2	100kPa	set 102Kpa

Earthing System

15	Electrical supply earth resistance	RBL Technical Manual part 7 section 5.4		OK
16	Lightning earth resistance	RBL Technical Manual part 7 section 5.5		OK

Bung Inserter

17	Check operation of bung inserter	Lubricate all moving components with synthetic lubricant containing PTFE		serviced

Other Comments

Located gas leak from storage cylinder to gas holder, Non return valve leaking. Serviced the valve but some leakage still persists. Should be replaced at next visit.

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Equipment Spares Re-Order

Non return Valve

Resin deionising

Officer : Troy Culgan **Date : 25 Sept 05**

Station : Nauru